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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,558	01/16/2004	Glen McLaughlin	PA2632US	8129
22830	7590	10/17/2006	EXAMINER	
CARR & FERRELL LLP 2200 GENG ROAD PALO ALTO, CA 94303			JAWORSKI, FRANCIS J	
			ART UNIT	PAPER NUMBER
			3768	

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/759,558	MCLAUGHLIN ET AL.	
	Examiner	Art Unit	
	Jaworski Francis J.	3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on (interview 9/22/06).
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 71 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25 - 32 is/are allowed.
- 6) ☒ Claim(s) 1-24 and 33-71 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in supplement to the previous action mailed on June 5, 2006 insofar as original claims 1 – 43 had not been cancelled by the pre-amendment filed on June 21, 2004 which added additional claims 44 – 71. Accordingly, the issues set forth regarding the latter claims are incorporated en bloc and attention is directed to that 6/06 correspondence.

The statutory period has been re-started to run three months from the mailing date of this action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action: •

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 5, 8 – 18, 22 – 24, 39 – 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Wright et al (US5793701) insofar as Wright et al transmits ultrasound which scans an internal object or region of interest to receive pulse-echo magnitude and phase information during receive beamformation via subarray processing to transform the data from original scanline format to assemble additional synthetic scanlines occupying a lateral or area dimension with respect to the original subarray echo data. A three-dimensional mode involving second and third spatial dimensions may be invoked per col. 19 discussion. A variety of interpolative weightings

including for the three-dimensional case are applied dependent upon the data location for contributing elements within the receive subarray. Beam characteristics are selected in association with for example subarray organization and sequencing of scanlines in the synthetic aperture mode. The production of additional scanlines during synthetic aperture scanning centers on the main contributing line or lines and secondary contributing lines dependent on weighting scheme.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6 – 7, 20-21 and 33 - 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al as applied to claim1 above, and further in view of Cole et

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al (US6172939) insofar as the latter would teach that a system such as Wright et al may be operated such that additional overlapping second beams may be concurrently transmitted to additional spatial locations or regions of interest within the subject in order to further increase frame rate. The returning echodata line of one such contributing beam does not intersect the other. Data must be depth correlated for synthetic line formation. The concurrent scanline productions are time-independent with respect to each other and involve large numbers of array elements.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al as applied to claim 18 above, and further in view of Robinson (US4252026) which evidences that it was well-known to receive echo data along scanlines during scanning sequences adapted to increase frame rates such as per Wright et al.

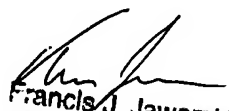
Allowable Subject Matter

Claims 25 – 32 are allowed.

Claims 44 – 71 are treated as per the prior Office action.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj
100506


Francis J. Jaworski
Primary Examiner